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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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06/20/2006

Masahiko Kadokura

40635

8886

52054

7590

10/29/2010

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CLEVELAND, OH 44114-3108

EXAMINER

HUNTLEY, DANIEL CARROLL

ART UNIT

PAPER NUMBER

3737

NOTIFICATION DATE

DELIVERY MODE

10/29/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/596,658	Applicant(s) KADOKURA, MASAHIKO	
	Examiner DANIEL HUNTLEY	Art Unit 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 March 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

The drawings were received on 08/18/2010. These drawings are acceptable.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-6 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The current amended claim 1 contains new matter not originally described in the specification, namely in lines 16, 23, 28 and 30 of claim 1, 'loop ends' and 'removably'.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa('080).

In re claims 1 and 3, Okawa('080), teach an ultrasonic probe comprising; an ultrasonic transducer unit emitting ultrasonic waves while swinging ([0011]), a motor adapted to generate power for swinging said ultrasonic transducer unit ([0006]), a first power transmission device, the first power transmission device connected to a rotating shaft of said motor and transmitting said power ([0014]-[0016]; [0059]-[0062]), a drive device connected to said first power transmission device, the drive device rotated by said transmitted power ([0011]), a cable-like second power transmission device, the cable-like second power transmission device adapted to transmit said power by the rotation of said drive device ([0014]-[0016]), a swing device (abstract), on which said ultrasonic transducer unit is mounted, swinging said ultrasonic transducer unit with said power due to the rotation of said drive device transmitted through said second power transmission device, a first fixing device to which one of the ends of the second power transmission device is fixed and which is fixedly attached to said swing device together with said fixed second power transmission device ([0051]), a second fixing device fixing, to said drive device, an opposite end of said second power transmission device, which is opposed to the end that is fixed at the first fixing device ([0019]). Additionally, Okawa('080) teach a second fixing device comprising a screw that tightens power transmission device to said drive device ([0019]).

The examiner notes that Okawa('080) do not expressly teach that the ends of the second power transmission device contain loops or that the first fixing device is removably attached to swing device. However, the examiner notes that Okawa('080) do teach fastening holes at each

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end of drive belt (fig 4a, items 31a and 31c) which are used for the same purpose as the loop ends for removably fastening the second power transmission device to both the drive device and the swing device and, hence, the loop ends would have been an obvious design decision in the absence of any further showing of criticality or unexpected result. Additionally the examiner notes that the projections described in Okawa('080) would necessarily be removable using known manufacturing techniques.

In re claims 2 and 10-11, Okawa('080) teach a fixing device using the tension of the drive belt (fig 3, item 5a), made out of an adjusting material that would be reasonably capable of being deformable by external forces, and having a plurality of holes for synchronizing the drive pulley with the drive belt for reliable transducer control (fig 5a). It is noted that Okawa('080) fail to teach penetrating holes that are interconnected with one another. However, using overlapping holes and grooved surfaces as a method of integrally fixing materials together is well known in the art and would have been an obvious design choice in the absence of any further showing of criticality or unexpected result.

In re claim 4, Okawa('080) do not expressly teach a screw having a plate-like portion for protecting second power transmission device from damage during screw tightening. However, washers of varying sizes are well known in the fastener art and are used for shielding from screw tightening damage and would have been an obvious design choice in the absence of any further showing of criticality or unexpected result.

In re claims 5-7, Okawa('080) teach the invention as described above, including a shaft attached to the motor ([0079]), except for expressly teaching an intermediate pulley to remove slack from the cable by moving towards and away from the drive device and additionally which

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moves parallel to the swinging device. However, Okawo('080) do teach an movably adjustable idler roller device that contacts the drive belt at an intermediate location for the purpose of maintaining belt tension (fig 2, item 21). Hence it would have been obvious to one of ordinary skill in the art to modify the idler roller device as disclosed by Okawo('080) to act as a intermediate pulley in order to remove slack from the system.

In re claims 8-9, Okawo('080) teach the invention as described above, except for expressly teaching the wire is connected with a connecting section using one or more screws. However, Okawo('080) do teach connecting a drive belt to drive pulleys using screws. The examiner interprets this connection point to be a 'connecting section'.

Response to Arguments

Applicant's arguments filed 08/18/10 have been fully considered but they are not persuasive. Specifically concerning the argument regarding whether Okawa('080) teach a cable-like transmission device, the examiner respectfully disagrees as the drive belt transmission device in Okawa('080) can be described as cable-like, particularly when the belt width is narrow. Regarding whether the first fixing device described in Okawa('080) is deformable by external forces, the examiner respectfully disagrees as the claim as written does not specify a material having any further characteristics other than being deformable by external forces, hence, commonly used transducer materials are interpreted as being deformable to a relative degree. Furthermore, crimping devices for joining two end pieces to create a single piece are well known in a variety of fields including manufacturing/construction, jewelry making, and fishing tackle.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL HUNTLEY whose telephone number is (571)270-1217. The examiner can normally be reached on Monday through Friday, 7:30-4, alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ruth S. Smith/
Primary Examiner, Art Unit 3737

/DANIEL HUNTLEY/
Examiner, Art Unit 3737